



US009636617B2

(12) **United States Patent**  
**Wennerström et al.**

(10) **Patent No.:** **US 9,636,617 B2**

(45) **Date of Patent:** **May 2, 2017**

(54) **AIR PURIFIER DEVICE WITH FAN DUCT**

(56) **References Cited**

(71) Applicant: **Blueair AB**, Stockholm (SE)

U.S. PATENT DOCUMENTS

(72) Inventors: **Johan Wennerström**, Stockholm (SE);  
**Elin Engberg**, Stockholm (SE)

521,862 A \* 6/1894 McConnell ..... F04D 29/545  
415/222  
1,502,862 A \* 7/1924 Menk ..... F04D 29/526  
237/50

(73) Assignee: **BLUEAIR AB**, Stockholm (SE)

(Continued)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

FOREIGN PATENT DOCUMENTS

CN 2130247 Y 4/1993  
CN 101010142 A 8/2007

(Continued)

(21) Appl. No.: **14/548,655**

(22) Filed: **Nov. 20, 2014**

OTHER PUBLICATIONS

(65) **Prior Publication Data**

US 2015/0231543 A1 Aug. 20, 2015

Wennerström et al., U.S. Appl. No. 14/548,551, entitled "Air Purifier Device With Coupling Mechanism," filed Nov. 20, 2014.

(Continued)

(30) **Foreign Application Priority Data**

Feb. 18, 2014 (EP) ..... 14155645

*Primary Examiner* — Amber R Orlando

*Assistant Examiner* — Brittany Precht

(74) *Attorney, Agent, or Firm* — Buchanan Ingersoll & Rooney P.C.

(51) **Int. Cl.**

**B01D 46/00** (2006.01)

**F04D 29/54** (2006.01)

(Continued)

(57)

**ABSTRACT**

An air purifier device is provided including a fan arranged to produce an air flow through the air purifier device, and a fan duct for guiding the air flow produced by the fan. The fan duct extends in an upright direction of the air purifier device. The air purifier device further includes an air intake arranged below a lower end of the fan duct, and an exhaust arranged at an upper end of the fan duct so as to exhaust purified air in an upward direction from the air purifier device when the air purifier device is in use. The fan duct is flared in direction from an intermediate portion of the fan duct towards both it

(Continued)

(52) **U.S. Cl.**

CPC ..... **B01D 46/0032** (2013.01); **B01D 46/0039**  
(2013.01); **F04D 13/06** (2013.01);

(Continued)

(58) **Field of Classification Search**

CPC ..... B01D 46/00; F04D 29/545; F04D 29/547;  
F04D 29/526

(Continued)

